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fied towards orange; elsewhere dorsally, hair brown, with centers of exposed ends of feathers darkest; wings and tail dark hair brown with pale edgings; lower breast, sides, flanks and crissum, with narrow shaft-streaks of hair brown on a dull whitish ground; streaks on flanks and crissum broadest, narrowest on belly; maxilla, feet and legs dark hair brown; mandible pale hair brown. Wing, 79 mm.; tail, 58.7; tarsus, 17; hind toe with claw, 12; culmen, 10.3; bill-from-nostril, 8.2; gonys, 7.5; width of maxillary portion of bill at base, 7.1; depth of bill (normally closed) through nostril from proximal end of culmen to symphesial portion of mandibular ramus, 8.3.

RANGE. — Specimens are at hand from the islands of Oahu, Molokai, and Maui, H. T. The linnet has been reported also from Hawaii and Kauai.

A LIST OF THE BIRDS OF SEDGWICK COUNTY, KANSAS.

BY DWIGHT ISELY.

INTRODUCTION.

THE following paper was originally written as a summary of my observations on the habits of birds in the vicinity of Fairmount College, Wichita, Kansas, during the school year 1909-10. The work was done in connection with a course in animal ecology taken under the instruction of Austin P. Larrabee, Professor of Biology at Fairmount College.

In my observations I intended in the first place to become familiar with as many species and their habits as possible. In particular I aimed to study their migration habits and to determine the favorite environment of each bird.

Since the paper was first written I have endeavored to make as nearly as possible a complete list of the birds of Sedgwick County. With this in view I made a compilation not only of all I had noted regarding birds in my five years' residence in Wichita but also I secured records of Professor Austin P. Larrabee, Dr. R. Mathews, and Messrs. Richard H. Sullivan and Charles H. Smyth.

Professor Larrabee, head of the department of biology at Fairmount College, has lived in Wichita since September, 1909, and has kept complete notes on bird migrations since that time. Dr. Mathews has observed birds in Sedgwick County for 25 years. The late Dr. F. H. Snow of the University of Kansas has credited him with three species in his 'Catalogue of the Birds of Kansas.' Mr. Sullivan, the local weather forecaster, is president of the Kansas Audubon Society. He has kept very complete notes on bird migrations since 1905. Mr. Smyth is president of the Wichita Sportsmen's Club and has in his keeping the club records in which all the ducks shot on its reserve since 1889 are noted. To these gentlemen I am greatly indebted for the assistance they have given me.

The center of the field of my observations has been Fairmount Hill and Fairmount College campus. Fairmount Hill is a suburb of Wichita, northeast of the main part of the city, and connected with it only by a few scattering houses. Trees, mostly elms and maples, are planted along the streets and on the lawns, and there are a few small orchards. There is little shrubbery on the Hill and it is not as thickly settled as the city proper. On the college campus is a grove of maples, elms and ash trees and the so-called cedar (*Juniperus virginianus*) and a clump of cottonwoods. For the most part the trees are still small.

South of Fairmount Hill is a cemetery covering about 100 acres, planted with a mixed grove of maple, elm, coffee bean, red-bud, cedar and spruce trees. The evergreen and deciduous trees are evenly divided. In the east part of the cemetery is a pond covering several acres. About half of it is very shallow. Its banks are fringed with willows, sedges and swamp grasses.

East and north of Fairmount Hill is for the most part prairie land. A few osage oranges check these meadows. About three fourths of a mile east of Fairmount Hill is a shallow pond, known as the Reed Pond, whose borders are overgrown with cat-tails, bulrushes, willows and swamp grasses. Leading from this pond in a southerly direction is a slough which in the rainy season forms a chain of little ponds. About a mile northeast of Fairmount College is McGuinnis's Pond, which covers several acres. Leading from this pond in a northerly direction is a slough which also

forms a series of little ponds in the rainy seasons. Immediately west of the Hill is unbroken prairie land, alfalfa fields, and a few houses.

About a mile and a half north of the college is Chisolm Creek, a small sluggish stream, flowing in a westerly direction. Along the creek in this region shrubbery and a few willow and elm trees are found. At a point about two miles northwest of the Hill, Chisolm Creek turns south and flows through McKinley Park, a mile and a half west of Fairmount, which is quite well wooded. Adjoining McKinley Park is a timber lot in which there is much underbrush, and on its border is a patch of raspberries and blackberries.

The Little Arkansas River, about three miles west of Fairmount Hill, flows south through Riverside Park, which covers about 100 acres. Native timber of elms, hackberries, a few oaks and black walnuts covers the entire area but in no place is it very thick. There is some underbrush along the river on land adjoining the park.

About five miles south of the city is a timber lot of about 40 acres on the Arkansas River. This is covered with tall timber of cottonwoods, sycamores, oaks, elms, black walnuts, willows and considerable underbrush, and is the only real wooded area in the territory that was under my observation.

The majority of my field trips were to the cemetery and the adjoining prairie land. About once a month I visited the Little Arkansas River. I made two trips to the woods on the Arkansas River south of the city spending nearly a half day in each case. These trips were made April 3 and April 18.

On Oct. 24 and Oct. 25, 1909, I visited Mt. Hope, a town 25 miles northwest of Wichita. On both days I made trips along the Arkansas River near there, which is fringed with plum thickets and occasionally cottonwood trees. On the last day I visited a gun club reserve, several ponds and a prairie dog town.

Dr. Mathews and Mr. Sullivan made most of their field trips in Riverside Park and along the Little Arkansas River north of Wichita. Dr. Mathews and Mr. Smyth both hunted waterfowl on the reserve of the Wichita Sportsmen's Club four miles northeast of Mt. Hope, in the extreme northwestern portion of the county. Professor Larrabee's field of observation was nearly the same as my own.

LIST OF SPECIES.

Residents.

1. **Colinus virginianus**. BOB-WHITE.—Noted 14 times between September, 1909, and June, 1910. Most often it was seen in or near a willow copse by the cemetery. The call of the male may be frequently heard in the fields in the spring and early summer.

2. **Tympanuchus americanus**. PRAIRIE HEN.—Noted by Dr. Mathews as formerly very abundant. It has not been seen for years.

3. **Meleagris gallopavo silvestris**. WILD TURKEY.—Noted by Dr. Mathews as formerly frequent.

4. **Zenaidura macroura carolinensis**. MOURNING DOVE.—Abundant. Between April and October I have noted this species nearly every day. It is very rare in winter. Doves return in large numbers about March 15 and most of them disappear by November. In the latter part of September, 1909, I noted Mourning Doves collected in flocks of hundreds along Chisolm Creek north of Fairmount where there are but few trees along its banks.

5. **Speotyto cunicularia hypogæa**. BURROWING OWL.—One bird noted near a prairie dog town near Mt. Hope, Oct. 24, 1909.

6. **Megascops asio**. SCREECH OWL.—This species may be heard on Fairmount Hill about once in two weeks. On several occasions when I have passed through McKinley Park after nightfall I have always heard its call. On the night of May 27, 1910, I turned aside from the road and entered the park, being attracted by the calls of Screech Owls. I noted eight birds in a group, most of them young.

7. **Dryobates villosus**. HAIRY WOODPECKER.—Noted only a few times a year, in McKinley and Riverside parks. Rare.

8. **Dryobates pubescens**. SOUTHERN DOWNY WOODPECKER.—Common resident in parks and along the streets of the city in the maple trees. It is occasionally noted on Fairmount Hill. Between September, 1909, and June, 1910, I noted the species every week but two.

9. **Colaptes auratus luteus**. NORTHERN FLICKER.—Common in summer in groves and hedges. Rare in winter. Most of this species leave about Oct. 1 and return about March 15. Between these dates in 1909-10, I noted the species five times. The Flicker feeds on the ground much more than any of the other woodpeckers.

10. **Corvus corax**. AMERICAN RAVEN.—Noted by Dr. Mathews as resident in the early days.

11. **Corvus brachyrhynchos**. CROW.—Uncommon on Fairmount. Abundant in fall and winter along the Arkansas River. I have noted crows in the business part of the city picking at garbage in cans back of restaurants.

12. **Agelaius phœniceus**. RED-WINGED BLACKBIRD.—Abundant except during the winter. A few young and females stay throughout.

the winter. I noted a flock of males on Feb. 21, 1910, singing. The sexes did not associate with each other till the last of April. The latest date upon which I have noted males was Oct. 25, 1910. On May 20, 1910, I found 3 nests in willows by Reed Pond. The average height was 4 feet above the water. I have found the species most numerous around ponds, especially Reed Pond east of Fairmount.

13. **Sturnella magna.** MEADOWLARK.—Abundant in fields and prairies except during December and January when it becomes uncommon. Only once have I found this bird away from the open. That was during a severe snowstorm Nov. 29, 1909, when I found several Meadowlarks taking refuge in cedar trees. In 1910 the spring song began in full force about March 1 although heard as early as January 21.

14. **Sturnella neglecta.** WESTERN MEADOWLARK.—The only time that I saw this bird to identify it was April 28, 1910. Professor Larrabee identified two birds shot Jan. 4, 1911. I have heard its song at different times throughout the spring and summer.

15. **Quiscalus quiscula seneus.** BRONZED GRACKLE.—A very abundant summer resident in woods and fields. I have noted a few in every month of the year. It becomes abundant by the middle of March and continues so until the last of October. In the latter part of August and throughout September immense flocks collect and roost in the trees in Wichita. Mr. Sullivan has estimated their numbers to be more than 100,000. Many nest within the city.

16. **Astragalinus tristis.** GOLDFINCH.—Common on Fairmount Hill and in the cemetery. Except during the first week of April I have noted Goldfinches at least once a week between September, 1909 and June, 1910. The earliest date, a male in summer plumage, was April 8; the latest, Oct. 8. I always saw them in small flocks.

17. **Passer domesticus.** HOUSE SPARROW.—Very abundant in the city and around farm houses. Nests everywhere in the city in trees and under the eaves of houses.

18. **Cardinalis cardinalis.** CARDINAL.—Common resident. I have noted this species at least once every week between September, 1909, and June, 1910. The largest number observed on any one day was 38, on Feb. 10. They were in a double osage orange hedge, about 300 yards long, near Chisolm Creek. The Cardinal's mating song is first heard about Jan. 1. In March and April it is one of the most conspicuous songsters. In Brown County, Kansas, several years ago, I found the Cardinal nesting abundantly. All the nests were in gooseberry bushes, a few feet from the ground, and were lined with red rootlets.

19. **Mimus polyglottos.** MOCKINGBIRD.—Abundant in spring and summer on Fairmount Hill and in the cemetery. Rare in winter. I noted this species three times during the winter of 1909-10. Beginning with March, 1910, the species became numerous. In 1909 it was quite common until Oct. 20. In winter I have noted this bird only near cedar trees in the cemetery. I have seen it feeding upon cedar berries.

Every May for three years I have noted a nest in a mock orange bush in a neighbor's yard. In May, 1910, I noted a nest in a mulberry tree, on Fairmount Hill, about 10 feet above the ground.

20. **Thryothorus ludovicianus.** CAROLINA WREN.—Noted one bird Feb. 13, 1910, loudly singing in a brush pile by Chisolm Creek in McKinley Park. On March 19 and on April 7, I noted a pair in the same place. On April 16 I noted a pair in a plum thicket along the Little Arkansas River near Riverside Park. Several were seen in Riverside Park in March, 1908.

21. **Penthestes atricapillus.** CHICKADEE.—Numerous in woods along rivers. Around Fairmount I occasionally saw Chickadees but never in flocks. One nest was noted in a cottonwood stub near the Arkansas River, south of the city, April 18. I first noted the spring song in 1910, about Feb. 1.

22. **Planesticus migratorius.** ROBIN.—Abundant except during the latter part of December and the whole of January. Between Sept. 8, 1909, and June 1, 1910, there was not a week in which I did not observe this species. With exception of the two winter months mentioned I saw Robins nearly every day. Cedar trees in the cemetery were their particular refuge in winter. They are gregarious until March 1. About this time they begin the spring song which continues until about May 1.

23. **Sialia sialia.** BLUEBIRD.—Common in the cemetery and in Riverside Park. I have never noted it in winter but it has been seen there both by Mr. Sullivan and Professor Larrabee. The latest date I have noted it is Nov. 16; earliest date, March 1. They apparently begin singing in the spring immediately after their arrival.

Summer Residents.

24. **Botaurus lentiginosus.** BITTERN.—I noted a pair of these birds during April and May, 1910, at Reed Pond, east of Fairmount. The earliest date was April 12. During the summer of 1909 a pair were occasionally seen at the same place. On Oct. 18, I saw one wading in Chisolm Creek north of Fairmount.

25. **Ixobrychus exilis.** LEAST BITTERN.—Professor Larrabee identified two of this species, April 30 and May 18. Both were found with their necks broken, on the ground beneath telephone wires. Apparently they had flown into the wires at night. I noted a Least Bittern at the Reed Pond, June 4 and June 11.

26. **Butorides virescens.** GREEN HERON.—Common at ponds and along Chisolm Creek, north of Fairmount, from May to October. First date noted in 1910, May 3.

27. **Rallus elegans.** KING RAIL.—On April 19, I noted one by the Reed Pond. On June 2, I found a rail, dead, by the same pond. It had probably been killed by a hail-storm of the night before. Dr. Mathews noted that the King Rail nests here.

28. **Porzana carolina.** SORA.— I noted one by the cemetery pond Sept. 12, 1909. Professor Larrabee noted a pair May 19 by the Reed Pond. I have seen the Sora four times in four years, by the Reed Pond, in the summer.

29. **Fulica americana.** AMERICAN COOT.— Occasionally noted on ponds during the summer. Earliest date, April 16, 1910. Noted by Dr. Mathews as abundant in migration.

30. **Bartramia longicauda.** UPLAND PLOVER.— Rare in summer; common in migration. I noted a flock of several hundred May 8, 1910, on an alfalfa field northeast of Fairmount. The greater number migrate southward in September. Professor Larrabee noted one Oct. 3, 1910.

31. **Actitis macularia.** SPOTTED SANDPIPER.— Seen a few times in July, August and September, 1909. Last noted Sept. 20, wading in shallow water in the Little Arkansas River. Noted frequently in the summer by Mr. Sullivan.

32. **Oxyechus vociferus.** KILLDEER.— Common in fields and meadows. The earliest date on which I have noted this species is Feb. 14, 1911. During the first month or six weeks after their arrival Killdeer seem to spend a large part of their time in courtship. The male will fly back and forth over a field giving its cry sometimes for over an hour without intermission. After this period they are less noisy and conspicuous. A Killdeer has been noted as late as Nov. 10, 1910, by Professor Larrabee.

33. **Cathartes aura septentrionalis.** TURKEY VULTURE.— Noted a few times every summer. I saw it as late as Nov. 23 in 1909, and as early as Feb. 25 in 1910.

34. **Buteo borealis krideri.** KRIDER'S HAWK.— Rare. This bird I have seldom noted near the city. The earliest date is April 18; the latest, Oct. 8, 1909.

35. **Aluco pratincola.** BARN OWL.— One pair noted by Dr. Mathews, nesting. Noted by Mr. Sullivan in May, August and October.

36. **Coccyzus americanus.** YELLOW-BILLED CUCKOO.— A common summer resident. I have noted it before June 1 or after September 1. I have found it almost anywhere where there are trees.

37. **Coccyzus erythrophthalmus.** BLACK-BILLED CUCKOO.— Dr. Mathews has found one Black-billed Cuckoo's nest.

38. **Ceryle alcyon.** BELTED KINGFISHER.— Uncommon. April 16 is the earliest date upon which I have noted it. It may be seen throughout the summer along the Little Arkansas River, and I have noted it on Chisolm Creek.

39. **Melanerpes erythrocephalus.** RED-HEADED WOODPECKER.— A common resident of Riverside Park and of the trees along the city streets. This bird seems to be more fond of telephone poles and dead trees than any other of the woodpeckers. Noted as early as April 8 by Mr. Sullivan. My latest date is Sept. 23 in 1909.

40. **Centurus carolinus.** RED-BELLIED WOODPECKER.— Noted

April 7, and May 20, 1910, in McKinley Park. Dr. Mathews found a pair nesting near the city in the summer of 1902.

41. **Antrostomus vociferus.** WHIP-POOR-WILL.—Noted by Dr. Mathews as seen occasionally in summer.

42. **Chordeiles virginianus.** NIGHTHAWK.—Common in summer; abundant during September migration. First noted in 1910, May 8. Last noted in 1909, Oct. 12.

43. **Chaetura pelagica.** CHIMNEY SWIFT.—Common in the city. First noted in 1910, May 9; last noted in 1909, October 12. Many of them roost in the unused chimneys on Fairmount college.

44. **Archilochus colubris.** RUBY-THROATED HUMMINGBIRD.—Rare. I see it a few times during a summer.

45. **Muscivora forficata.** SCISSOR-TAILED FLYCATCHER.—Noted one bird June 22, 1907. Dr. Mathews notes this species as rare but increasing. It is said by Garner Taylor to be quite common a few miles south of Wichita.

46. **Tyrannus tyrannus.** KINGBIRD.—Common in groves and along fences. In 1910 the first date on which I noted the species was April 30. The last date in 1909 was Sept. 15. Kingbirds decrease in numbers in August.

47. **Myiarchus crinitus.** CRESTED FLYCATCHER.—Common in the tree-tops of Riverside Park throughout the early summer. The earliest date on which I have noted this species is May 1, in 1910.

48. **Sayornis phoebe.** PHOEBE.—Common by bridges, under which I have noted several nests. In Brown County, Kansas, I once found a nest in a cattle barn. Two sets of eggs were laid in it but both were destroyed and at last the nest was abandoned by the Phœbes. It was immediately occupied by English Sparrows when the first owners left it. The Phoebe disappears early in the summer. The earliest date upon which I have noted it is March 4, 1910.

49. **Myiochanes virens.** WOOD PEWEE.—Common throughout the summer in Riverside Park. It continues its song later into the summer than do most birds. Mr. Sullivan has noted it as early as March 17; his latest date is September 11.

50. **Empidonax virescens.** ACADIAN FLYCATCHER.—Dr. Mathews saw a pair building a nest in Riverside Park in the summer of 1902.

51. **Cyanocitta cristata.** BLUE JAY.—Abundant in Riverside Park; common on Fairmount Hill and in the cemetery. First noted on April 16 in 1910. It was common in the fall of 1909 until October and was last noted on the 12th of that month.

52. **Molothrus ater.** COWBIRD.—Common in spring and summer and abundant in fall. The earliest date upon which I noted this species was March 16 in 1910. In the fall of 1909 I saw it as late as Nov. 15. Like the Grackles the Cowbird follows the plow in spring and feeds upon grubs.

53. **Icterus spurius.** ORCHARD ORIOLE.—Common in the trees

along the streets, in the cemetery and in Riverside Park. The earliest date upon which I have noted this species was May 8, in 1910. They begin to be less numerous about Aug. 1.

54. **Icterus galbula.** BALTIMORE ORIOLE.—A common tree bird along the city streets, in the cemetery and Riverside Park. The first date upon which I have noted this species was April 30, in 1910. It becomes rare about two weeks later than the Orchard Oriole. I have often seen this bird robbing the pea patch in the garden.

55. **Passerherbulus lecontei.** LECONTE'S SPARROW.—A very common prairie bird. The earliest date, March 28, in 1910. The species is quite conspicuous in the early part of the summer when its cricket-like song can be heard on the prairie, especially at twilight. It was noted as late as Oct. 3 by Professor Larrabee, in 1910.

56. **Chondestes grammacus.** LARK SPARROW.—A common prairie bird often found near ponds. It was first noted April 4 in 1910, and last seen Oct. 8 in 1909.

57. **Spizella passerina.** CHIPPING SPARROW.—Uncommon on Fairmount Hill and in the cemetery. Noted first May 4 in 1910. I see this species a few times every summer.

58. **Spizella pusilla.** FIELD SPARROW.—I have seen this bird a few times in the cemetery and in the open woods in Riverside Park. The earliest date is March 27, 1910. In Brown County, Kansas, where the species was abundant, the hedges were a favorite cover at night. The Field Sparrow there had a habit of singing at any time of the night.

59. **Pipilo erythrophthalmus.** TOWHEE.—Common in April and May in the underbrush by the Little Arkansas River. First noted, a pair, April 7, 1910, in McKinley Park. The latest I have seen this species is Oct. 25, 1909.

60. **Zamelodia ludoviciana.** ROSE-BREADED GROSBEEK.—Rare. Noted four times in four years, in Riverside Park, where Dr. Mathews found it nesting in the summer of 1902.

61. **Passerina cyanea.** INDIGO BUNTING.—Uncommon. Noted occasionally in the tall timber in Riverside Park and McKinley Park. The earliest date, May 1, 1910.

62. **Spiza americana.** DICKCISSEL.—Abundant on the prairies during the spring and summer. During the hottest summer days these birds are very conspicuous on the tall prairie weeds, and on the fences and telephone wires, singing. They begin to be less numerous by August. The earliest date of arrival noted was May 8, in 1910. The latest seen was Sept. 25, 1909. The Dickcissel is very fond of water, and I have often noted it wading in shallow ponds.

63. **Piranga erythromelas.** SCARLET TANAGER.—Noted July 1, 1909, in Riverside Park. Three have been noted at different times by Dr. Mathews.

64. **Progne subis.** PURPLE MARTIN.—Common in the business part of the city, where several hundred pairs nest every summer. The earliest

date on which I have noted it was March 24 in 1910. Mr. Sullivan has noted Martins as early as March 11. They begin to migrate southward by August 1.

65. **Petrochelidon lunifrons.** CLIFF SWALLOW.—Common. Noted between May 1 and September 22. In the early part of September, both of 1907 and 1908, I saw a continuous stream of these birds flying southward. They did not move in a compact flock like Blackbirds but were scattered from horizon to horizon, and were several days in passing.

66. **Hirundo erythrogastra.** BARN SWALLOW.—Common from the latter part of April until the middle of September. These birds are seen most frequently flying over ponds or around cattle. I have found a number of nests in a hay shed on the prairie east of Fairmount.

67. **Iridoprocne bicolor.** TREE SWALLOW.—Dr. Mathews has noted two pairs nesting in the city.

68. **Riparia riparia.** BANK SWALLOW.—Noted by Mr. Sullivan during the summers of 1908 and 1909. Also by Dr. Mathews.

6. **Lanius ludovicianus excubitorides.** WHITE-RUMPED SHRIKE.—Common. Noted most frequently on fences or trees in the open. The earliest date on which I have seen it was Feb. 28; the latest, Sept. 26. On May 17 I found a nest containing six eggs on the Fairmount College campus in an elm sapling, about eight feet from the ground.

70. **Vireosylva olivacea.** RED-EYED VIREO.—A common summer resident, singing in the trees along the city streets. It is one of the most persistent songsters during the hot weather, keeping up its song even into August. The earliest date upon which it was noted was May 8, by Professor Larrabee.

71. **Vireosylva gilva.** WARBLING VIREO.—A common singer in the trees along the street and in the cemetery during the first half of May. The species becomes less common during the latter part of spring and I have never noted it after July.

72. **Vireo griseus.** WHITE-EYED VIREO.—Uncommon. I have found this species most frequently along hedges and in evergreen trees. The earliest date, May 11, in 1910; the latest, Sept. 12, in 1909.

73. **Dendroica aestiva.** YELLOW WARBLER.—Abundant during the spring migration and common throughout the summer. I have found this species in trees along the streets, in the cemetery and parks. May 1, 1910, is the earliest date upon which I have noted the species.

74. **Geothlypis trichas occidentalis.** WESTERN YELLOW-THROAT.—A common bush bird in spring and early summer. The earliest date on which I noted this species was May 1, 1910. Noted in underbrush, by cemetery Pond, Chisolm Creek and Little Arkansas River. During May and June it sings almost constantly.

75. **Icteria virens.** YELLOW-BREASTED CHAT.—Noted by Dr. Mathews as common.

76. **Dumetella carolinensis.** CATBIRD.—Common in spring. The earliest date on which I have noted the species was May 8, 1910; the latest

was Oct. 3, 1909. On May 24, 1910, I found a nest with four eggs, in a dwarfed cedar tree in the cemetery, about 2 feet from the ground. The Catbird is most numerous in the underbrush along the Little Arkansas River. Throughout May and June they are among the most noticeable songsters. Later in the summer and in the fall I have heard their song from a thicket but it was very quiet, and the birds were very shy.

77. **Toxostoma rufum.** BROWN THRASHER.— Abundant from May 1 to Oct. 1. The earliest date on which I noted this species was April 12, in 1910; the latest was Oct. 9, in 1909. This bird is found in large numbers all over the city, and in the parks. Its nests are very abundant in osage orange hedges. In May and June the old birds, followed by the young, may be seen on the lawns everywhere, pulling worms out of the ground. They feed also in the fields and a few follow the plow.

78. **Thryomanes bewickii cryptus.** TEXAS BEWICK'S WREN.— One bird noted May 17, 1910, in an orchard on Fairmount Hill. This bird was singing. During the first two weeks of May, 1909, a pair of these birds sang around a neighbor's house and started to build a nest in a bird box. They were apparently driven away by a House Wren.

79. **Telmatoodytes palustris.** LONG-BILLED MARSH WREN.— Noted by Dr. Mathews as frequent.

80. **Hylocichla mustelina.** WOOD THRUSH.— Common in the cemetery and the parks. Arrive about the middle of May. The last date I noted this species in 1909 was Sept. 20. After Aug. 1, the species becomes very shy and rare. On May 19, 1910, I found a nest in a peach tree about six feet above the ground, in an orchard on Fairmount Hill.

Winter Sojourners.

81. **Circus hudsonius.** MARSH HAWK.— Common. Noted about once a week from Oct. 9, 1909, until April 1, 1910, flying low over the prairies east and north of Fairmount.

82. **Buteo borealis.** RED-TAILED HAWK.— A pair has stayed in a pasture near Chisolm Creek, north of Fairmount, for several winters. In 1909 they were first noted Oct. 3, and were last seen March 16, 1910. A few scattering trees furnish perches for them.

83. **Buteo swainsoni.** SWAINSON'S HAWK.— Noted only occasionally during the winter, near the timber along the rivers. Sometimes I have seen them in flocks of 15 to 20. Mr. Sullivan noted a flock of these hawks, numbering 271, Oct. 1, 1909.

84. **Falco sparverius.** SPARROW HAWK.— Common. Noted along fences in the open and often in the city. In the fall of 1909 it was first seen Oct. 12; last noted in the spring of 1910, April 28.

85. **Sphyrapicus varius nuchalis.** RED-NAPED SAPSUCKER.— Noted by Mr. Sullivan, Dec. 23, 1910, and by Mr. Sullivan and Professor Larrabee, Feb. 10, 1911. On both occasions the species was seen in the woods along the Little Arkansas River, north of Wichita.

86. **Colaptes cafer collaris.** RED-SHAFTED FLICKER.—Noted one bird Feb. 18, 1910; noted another Dec. 17, 1910, and a pair Feb. 3, 1911. Noted also by Mr. Sullivan and Professor Larrabee.

87. **Otocoris alpestris leucolæma.** DESERT HORNED LARK.—Common. During snow storms it is abundant, coming in flocks of hundreds. In 1909 I noted them as early as Sept. 25. The following spring they became rare during the first part of April, although I noted one bird as late as May 8. Most frequently found along open ravines north and east of Fairmount. Sometimes I have seen a Horned Lark sitting on a post to sing but never on a wire or in a tree. I do not believe that their feet can grasp a round object. The Horned Lark is one of our earliest singers, beginning about the middle of January. From that time until they migrate northward their song can be heard nearly every evening on the prairie. In Brown County, Kansas, where the Horned Lark is resident, twice I found nests on crests of corn ridges. They were mere hollows in the earth with no lining. Each nest contained five eggs.

88. **Spinus pinus.** PINE SISKIN.—Abundant in cedar trees in the cemetery, during the winters of 1906–07, 1907–08, 1908–09. I have not seen these birds since. Professor Larrabee noted a small flock in the cemetery March 9, 1911.

89. **Zonotrichia querula.** HARRIS'S SPARROW.—An abundant bush bird, very abundant during the spring migration. The first date upon which I noted the species in the fall of 1909 was Oct. 13. The following spring the last were noted May 14. Harris's Sparrows become abundant by Oct. 25. During March and April I believe that they are the most numerous birds in this vicinity. I have found them most numerous along thick osage orange hedges. About March 1, they begin to sing in chorus. I have counted several hundred in large flocks in which a large part of the birds were singing at the same time.

90. **Spizella monticola.** TREE SPARROW.—Abundant. First noted in 1909, Oct. 24, in the plum thickets by the Arkansas River near Mount Hope. In the following spring it was last noted March 12. The Tree Sparrow is a frequent dooryard visitor, coming to pick up crumbs. As far as I have observed it is an open bush bird and is never found in thick woods. It is a great weed seed eater.

91. **Junco hyemalis.** SLATE-COLORED JUNCO.—Abundant. In 1909 I first noted this species on Oct. 13, and in the following spring I last noted it April 12. On almost any day between those dates Juncos could be seen in the cemetery and on Fairmount Hill. I have found them most numerous around the cedar trees in the cemetery, and like the Tree Sparrow the Junco is a frequent dooryard visitor. They are more abundant during stormy weather, when they come in flocks of thousands. Juncos begin singing in the middle of March.

92. **Melospiza melodia.** SONG SPARROW.—Common in the fall, rare in midwinter, and abundant in the spring migration. In 1909 I first noted this species Oct. 2. It became abundant in October and re-

mained so until the last of December. On March 5, 1910, Song Sparrows suddenly became abundant and continued so until the middle of April. The last of the species was noted May 8. The favorite haunts of this bird are the shrubbery, tall grass and weeds by the ponds and Chisolm Creek. It is curious to note, however, that Song Sparrows were common in the tall weeds by the cemetery pond in the fall of 1909 when the pond was entirely dry. I have heard the song of this bird during its entire stay in this region, but it was more common in the spring.

93. **Ampelis cedrorum.** CEDAR WAXWING.—I have noted a flock in the cemetery every winter for five years. They are very erratic in their migrations. In the fall of 1909 I first noted the species Nov. 23; in 1910 I first noted them Nov. 2; in the fall of 1908 they did not appear at all but came in January, 1909. In 1910, they disappeared Feb. 15 until March 20, when they became numerous for two days and then left.

94. **Lanius borealis.** NORTHERN SHRIKE.—I have noted this species at least once every year for five winters. The earliest date was Oct. 24, in 1909. I have always found it in the open, on telephone wires or fences.

95. **Dendroica coronata.** MYRTLE WARBLER.—Abundant in the cemetery during warm winter weather. During the winter of 1909-10 these warblers disappeared entirely during stormy periods. I noted them irregularly from Nov. 6, 1909, to April 17, 1910.

96. **Anthus rubescens.** AMERICAN PIPIT.—Abundant during February and March, 1910, in prairies and pastures. I first noted this species Jan. 29, 1910. After that I often flushed flocks of hundreds from prairies. Apparently they had migrated by the middle of April, but I flushed a large flock in a wheat field, north of Chisolm Creek, May 8. They were especially numerous in fields overgrown with crab-grass.

97. **Nannus hiemalis.** WINTER WREN.—Noted by Mr. Sullivan between Oct. 26 and Feb. 27.

98. **Certhia familiaris americana.** BROWN CREEPER.—One noted Jan. 18, 1911, in Riverside Park. Noted also by Mr. Sullivan.

99. **Sitta carolinensis.** WHITE-BREASTED NUTHATCH.—Noted a single bird in a maple tree near the business part of the city, calling loudly, Feb. 25, 1911. Noted by Mr. Sullivan, Jan. 11, 1909. Noted by Professor Larrabee, March 11, 1911.

100. **Myadestes townsendi.** TOWNSEND'S SOLITAIRE.—I have noted a pair near the evergreens in the cemetery every winter for five years. It sometimes feeds on the ground but will fly to a tree almost as soon as it is observed. I have seen Solitaires eating cedar berries. On Jan. 24, 1910, I noted a Solitaire in Riverside Park.

Migrants.

101. **Podilymbus podiceps.** PIED-BILLED GREBE.—Noted by Dr. Mathews as common.

102. **Larus argentatus.** HERRING GULL.—Noted by Dr. Mathews.

In Brown County, Kansas, I noted a solitary Herring Gull on May 4, following a corn lister, picking up grubs like the Blackbirds.

103. **Larus delawarensis.** RING-BILLED GULL.—Noted in the latter part of 1908 feeding with Blackbirds on plowed land east of Fairmount Hill.

104. **Larus franklini.** FRANKLIN'S GULL.—One noted April 30 and May 4, 1910, flying north.

105. **Sterna hirundo.** COMMON TERN.—Noted by Dr. Mathews as a frequent migrant.

106. **Hydrochelidon nigra surinamensis.** BLACK TERN.—On Sept. 9, 1909, I identified one shot by Mr. C. C. Whitaker, which he said was one of a flock. In 1910 I noted a flock of 7, and on May 22 two birds. On both occasions they were flying north. Professor Larrabee noted a Black Tern Oct. 9, 1909.

107. **Pelecanus erythrorhynchos.** WHITE PELICAN.—Noted by Dr. Mathews and Mr. Sullivan.

108. **Merganser americanus.** AMERICAN MERGANSER.—Noted by Dr. Mathews.

109. **Merganser serrator.** RED-BREADED MERGANSER.—Noted by Dr. Mathews.

110. **Lophodytes cucullatus.** HOODED MERGANSER.—Noted by Dr. Mathews.

111. **Anas platyrhynchos.** MALLARD.—Noted six Mallards, shot at a Mt. Hope gun club, Oct. 25, 1909. During the spring of 1911, I noted Mallards shot by hunters, on several occasions. The earliest was Feb. 4. Mr. Smyth has noted that they are among the first of the ducks to arrive in the spring migration, often arriving by Feb. 1. In the fall they arrive about Oct. 1. He said regarding their feeding habits: "Mallards often leave water and go into the fields and feed all night. I have seen them sitting on kafir-corn shocks like Prairie Chickens. On one occasion two others and myself shot 55 Mallards while standing in a kafir corn shock."

112. **Chaulelasmus streperus.** GADWALL.—Noted by Dr. Mathews and Mr. Smyth.

113. **Mareca americana.** BALDPATE.—Noted several shot at the gun club near Mt. Hope, Oct. 24 and 25, 1909. Mr. Smyth has noted that this species begins to be common on the ponds about Oct. 10 in the fall, and March 10 in the spring.

114. **Nettion carolinense.** GREEN-WINGED TEAL.—I noted a flock of several hundred Green-winged and Blue-winged Teal on the Arkansas River near Mt. Hope, Oct. 25, 1909. This species, according to Mr. Smyth, arrives soon after the middle of September and stays in the country until the ponds freeze over. In the northward migration it returns during the early part of February.

115. **Querquedula discors.** BLUE-WINGED TEAL.—Noted with the preceding species on the Arkansas River, near Mt. Hope, Oct. 25, 1909. On May 11, 1910, I noted a pair on the cemetery pond. This duck is the

first to arrive in the fall and the last to go north in the spring. Mr. Smyth has shot Blue-winged Teal as early as Aug. 25.

116. **Querquedula cyanoptera.** CINNAMON TEAL.—Noted by Dr. Mathews as very rare.

117. **Spatula clypeata.** SHOVELLER.—Noted by Dr. Mathews and Mr. Smyth.

118. **Dafila acuta.** PINTAIL.—Noted a flock of 8 on McGuinnis's Pond Feb. 20, 1910. Mr. Smyth has noted that Pintails begin to arrive going southward about Oct. 20 and returning northward about Feb. 5. In 1891 he shot several of this species as nearly as Jan. 27.

119. **Aix sponsa.** WOOD DUCK.—I noted a pair on the cemetery pond April 25 and 26, 1910. Noted occasionally by Mr. Smyth, Dr. Mathews, and Mr. Sullivan.

120. **Marila valisineria.** CANVAS-BACK.—Noted by Mr. Smyth as being common in the fall after Oct. 20 and in the spring after March 1.

121. **Marila americana.** RED-HEAD.—Noted by Mr. Smyth as migrating with the Canvas-back. Common.

122. **Marila collaris.** RING-NECK.—Noted by Dr. Mathews.

123. **Marila marila.** SCAUP DUCK.—Noted by Mr. Smyth as common in the fall about Oct. 20 and in the spring about March 20.

124. **Marila affinis.** LESSER SCAUP DUCK.—Noted by Dr. Mathews.

125. **Charitonetta albeola.** BUFFLE-HEAD.—Noted by Mr. Sullivan.

126. **Erismatura jamaicensis.** RUDDY DUCK.—Noted by Mr. Smyth as common on the streams about Oct 15. They return in smaller numbers in the spring.

127. **Chen hyperboreus.** LESSER SNOW GOOSE.—March 15, 1911, I noted a flock of about 150, flying northward over Fairmount, about 50 feet high. Mr. Smyth has noted this species as a winter visitor during the warm days.

128. **Chen caerulescens.** BLUE GOOSE.—Noted by Dr. Mathews.

129. **Anser albifrons gambeli.** WHITE-FRONTED GOOSE.—Noted by Dr. Mathews as frequent but decreasing.

130. **Branta canadensis.** CANADA GOOSE.—Noted flocks Oct. 13, 1909, and Feb. 5 and Feb. 27, 1910. In other years I have noted this species during every winter month. I believe that this goose flies into this region occasionally on warm winter days.

131. **Branta canadensis hutchinsi.** HUTCHINS'S GOOSE.—Noted by Dr. Mathews.

132. **Branta bernicla glaucogastra.** BRANT.—Noted by Mr. Smyth as migrating southward about Oct. 15 and northward about March 15.

133. **Olor columbianus.** WHISTLING SWAN.—Noted by Mr. Smyth and Dr. Mathews.

134. **Ardea herodias.** GREAT BLUE HERON.—I noted a pair wading in Chisolm Creek, north of Fairmount college, May 8, 1910.

135. **Grus americana.** WHOOPING CRANE.—Noted as frequent by Dr. Mathews.

136. **Grus canadensis.** LITTLE BROWN CRANE.—Noted as frequent by Dr. Mathews.

137. **Grus mexicana.** SANDHILL CRANE.—Noted as frequent by Dr. Mathews.

138. **Rallus virginianus.** VIRGINIA RAIL.—Noted by Dr. Mathews.

139. **Gallinago delicata.** WILSON'S SNIPES.—Noted as abundant by Dr. Mathews. Mr. Smyth has bagged snipe as early as Sept. 14, and has noted them migrating northward commonly on April 15.

140. **Pisobia maculata.** PECTORAL SANDPIPER.—I noted several at the cemetery pond during April, 1909. Noted as abundant by Dr. Mathews.

141. **Pisobia minutilla.** LEAST SANDPIPER.—Very common, wading in the borders of the cemetery pond during April, 1909. I often saw as many as 6 in a group.

142. **Totanus melanoleucus.** GREATER YELLOW-LEGS.—Noted by Dr. Mathews.

143. **Totanus flavipes.** YELLOW-LEGS.—Noted by Dr. Mathews.

144. **Helodromas solitarius.** SOLITARY SANDPIPER.—Common. Noted in the fall of 1909 between September 9 and September 26, and in the spring of 1910 between April 17 and May 17, and in the fall of 1910 between Aug. 28 and Sept. 15. The largest number that I have observed in one day is 14, which I saw at intervals wading in Chisolm Creek on May 8, 1910.

145. **Catophophorus semipalmatus inornatus.** WESTERN WILLET.—Noted by Dr. Mathews.

146. **Numenius longirostris.** LONG-BILLED CURLEW.—Noted by Dr. Mathews.

147. **Numenius hudsonicus.** HUDSONIAN CURLEW.—Noted as common by Dr. Mathews.

148. **Accipiter cooperi.** COOPER'S HAWK.—Noted Oct. 1, 1908, and Sept. 19, 1909, by Mr. Sullivan. In one case the bird was flying around in the business part of the city.

149. **Buteo lineatus.** RED-SHOULDERED HAWK.—Mr. Sullivan noted a flock of this species, Oct. 1, 1908, numbering 180, and several small flocks in the fall of 1909.

150. **Falco mexicanus.** PRAIRIE FALCON.—I noted one perched on a lower branch of an elm tree in the cemetery, April 25, 1909.

151. **Asio wilsonianus.** LONG-EARED OWL.—Noted one in the cemetery, April 19 and April 24, 1910, taking refuge in cedar trees.

152. **Asio flammeus.** SHORT-EARED OWL.—Noted one in a ravine east of the cemetery, March 16, 1910.

153. **Strix varia.** BARRED OWL.—A flock of six of these owls stayed nearly a week in the cemetery during March, 1909. In the daytime they hid in cedar trees.

154. **Empidonax minimus.** LEAST FLYCATCHER.—One noted in a clump of willows in Riverside Park, May 1, 1910, and another in a locust hedge in the cemetery, May 17, 1910.

155. **Xanthocephalus xanthocephalus.** YELLOW-HEADED BLACKBIRD.—On Sept. 23, 1909, I noted a flock of 7, and another flock of about 20, April 28, 1910.

156. **Euphagus cyanocephalus.** BREWER'S BLACKBIRD.—Throughout the whole of September and the first two weeks of October, 1909, this species was abundant. The last date upon which I observed it was Oct. 18. In the spring of 1910 one flock was reported by Mr. Larrabee April 28. In September, 1910, I noted but one small flock. During the fall of 1909 these birds were always in large flocks and were either in kafir-corn fields or in cottonwood trees.

157. **Poœcetes gramineus.** VESPER SPARROW.—Two birds were noted by Professor Larrabee in the prairie grass by the slough east of Fairmount.

158. **Ammodramus savannarum australis.** GRASSHOPPER SPARROW.—Noted by Dr. Mathews as common.

159. **Zonotrichia leucophrys.** WHITE-CROWNED SPARROW.—On Oct. 18, 1909, I counted 14 of these birds in the scattered shrubbery along Chisolm Creek north of Fairmount. On May 9, 1910, I saw one in an orchard on Fairmount Hill.

160. **Spizella pallida.** CLAY-COLORED SPARROW.—A common spring migrant, noted nearly every day between April 30 and May 17, 1910, on Fairmount Hill and in the cemetery. It was nearly always in small flocks.

161. **Peucœa cassini.** CASSIN'S SPARROW.—Noted by Professor Larrabee several times in the spring of 1910. The earliest date was April 26.

162. **Passerella iliaca.** FOX SPARROW.—Noted by Mr. Sullivan during the months of November, January, February, and May.

163. **Vireo belli.** BELL'S VIREO.—Noted by Dr. Mathews as frequent.

164. **Vermivora peregrina.** TENNESSEE WARBLER.—Noted by Professor Larrabee, Oct. 10 and 11, one bird being seen in the cemetery and the other in a hedge east of Fairmount.

165. **Setophaga ruticilla.** REDSTART.—Noted by Dr. Mathews.

166. **Bœolophus bicolor.** TUFTED TITMOUSE.—Common in the woods along the Arkansas River south of Wichita, April 18, 1910. The birds were very noisy and sang a great deal. It was also seen by Mr. Sullivan and Professor Larrabee March 19, 1911.

167. **Poliioptila cœrulea.** BLUE-GRAY GNATCATCHER.—Eight birds noted April 18, 1910, in the tall timber by the Arkansas River south of Wichita. Most of the time they stayed high in the trees and were very noisy.

168. **Hylocichla ustulata swainsoni.** OLIVE-BACKED THRUSH.—

Common spring migrant. Noted between May 4 and 17, 1910, nearly every day, on Fairmount Hill and in the Cemetery. On May 17 I counted 82 of this species feeding on the ground in the cemetery. This was by far the largest number that I have ever seen in any one day.

Occasional Visitors.

169. ***Aechmophorus occidentalis***. WESTERN GREBE.—Dr. Mathews noted one killed on the Little Arkansas River in 1887.

170. ***Colymbus nigricollis californicus***. EARED GREBE.—Dr. Mathews has noted this species two different years.

171. ***Gavia immer***. LOON.—Two birds noted by Dr. Mathews.

172. ***Phalacrocorax auritus***. DOUBLE-CRESTED CORMORANT.—One known to Dr. Mathews.

173. ***Pelecanus occidentalis***. BROWN PELICAN.—One bird noted by Mr. Sullivan April 25, 1910, flying north.

174. ***Anas rubripes***. BLACK DUCK.—Two specimens, identified by Dr. Mathews.

175. ***Clangula clangula americana***. GOLDEN-EYE.—Three noted by Dr. Mathews.

176. ***Harelda hyemalis***. OLD SQUAW.—Dr. Mathews has identified three of this species.

177. ***Oidemia perspicillata***. SURF SCOTER.—One specimen, identified by Mr. Sullivan and Dr. Mathews. The bird was shot Oct. 23, 1910.

178. ***Plegadis guarauna***. WHITE-FACED GLOSSY IBIS.—Noted three times by Dr. Mathews.

179. ***Ajaia ajaja***. ROSEATE SPOONBILL.—One killed by Dr. Mathews in 1900.

180. ***Herodias egretta***. GREAT WHITE EGRET.—One specimen, identified by Dr. Mathews in 1891.

181. ***Egretta candidissima***. SNOWY EGRET.—Noted by Dr. Mathews during the summer of 1891.

182. ***Florida carulea***. LITTLE BLUE HERON.—Noted by Mr. Sullivan during the summer of 1907 along the Little Arkansas River.

183. ***Nycticorax nycticorax nævius***. BLACK-CROWNED NIGHT HERON.—Dr. Mathews saw a flock of young during the summer of 1891. He has noted but one mature bird in this county.

184. ***Gallinula galeata***. FLORIDA GALLINULE.—One bird noted by Dr. Mathews in 1898 and another in 1899.

185. ***Steganopus tricolor***. WILSON'S PHALAROPE.—A pair were brought to Dr. Mathews that are now in his collection.

186. ***Recurvirostra americana***. AVOCET.—Three specimens are known to Dr. Mathews to have been taken in the county.

187. ***Philohela minor***. WOODCOCK.—One noted by Dr. Mathews in 1887, and one by Professor Larrabee Oct. 3, 1910.

188. ***Macrorhamphus scolopaceus***. LONG-BILLED DOWITCHER.—One was brought to Dr. Mathews.

189. **Squatarola squatarola.** BLACK-BELLIED PLOVER.— One was identified by Dr. Mathews.

190. **Charadrius dominicus.** AMERICAN GOLDEN PLOVER.— Noted by Dr. Mathews.

191. **Ictinia mississippiensis.** MISSISSIPPI KITE.— One noted by Dr. Mathews.

192. **Accipiter velox.** SHARP-SHINNED HAWK.— Noted by Dr. Mathews.

193. **Aquila chrysaetos.** GOLDEN EAGLE.— Noted by Dr. Mathews and Mr. Sullivan.

194. **Haliaetus leucocephalus.** BALD EAGLE.— Noted by Dr. Mathews.

195. **Falco columbarius.** PIGEON HAWK.— One killed by Dr. Mathews in December, 1901.

196. **Pandion haliaetus carolinensis.** OSPREY.— One shot by Dr. Mathews in 1892.

197. **Nyctea nyctea.** SNOWY OWL.— One shot by Dr. Mathews in 1891.

198. **Antrostomus carolinensis.** CHUCK-WILLS-WIDOW.— A bird captured by Dr. Mathews was submitted to Dr. F. H. Snow of the University of Kansas for identification, and is mentioned by Dr. Snow in his 'Catalogue of the Birds of Kansas.'

199. **Dolichonyx oryzivorus.** BOBOLINK.— One flock noted by Dr. Mathews.

200. **Euphagus carolinus.** RUSTY BLACKBIRD.— Noted by Dr. Mathews in the winter of 1901-02.

201. **Hesperiphona vespertina montana.** WESTERN EVENING GROSBEAK.— One noted by Dr. Mathews.

202. **Loxia leucoptera.** WHITE-WINGED CROSSBILL.— A small flock was twice noted by Mr. Sullivan in the fall of 1910.

203. **Plectrophenax nivalis.** SNOW BUNTING.— Noted by Mr. Sullivan Feb. 24, 1910.

204. **Junco hyemalis connectens.** SHUFELDT'S JUNCO.— One was noted by Professor Larrabee, March 6, 1911.

205. **Guiraca caerulea.** BLUE GROSBEAK.— Mr. Sullivan noted a pair June 3, 1910.

206. **Passerina ciris.** PAINTED BUNTING.— Noted one male May 17, 1907, in a blackberry briar patch in the north part of the city. One was noted by Dr. Mathews in 1887.

207. **Ampelis garrulus.** BOHEMIAN WAXWING.— A single bird in Dr. Mathew's collection was found by Garner Taylor in the cemetery one early spring morning after a hail storm, in 1904.

208. **Seiurus aurocapillus.** OVEN-BIRD.— One bird was noted by Dr. Mathews in Riverside park, June 8, 1902.

Summary.

Residents	23
Summer Residents	57
Winter Sojourners	20
Migrants	68
Occasional Visitors	40
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Total	208

NOTES ON RECOGNITION MARKS IN CERTAIN SPECIES OF BIRDS.

BY JOHN TREADWELL NICHOLS.

IN 'Bird-Lore' for December, 1901, Ernest Thompson Seton published an article on recognition marks in animals. The subject has interested me ever since, and I have tried to explain by that hypothesis some of their colors as seen in the field.

It is frequently urged that the build, motions, and general appearance of a bird are what we, and doubtless also its associates, use in recognizing it. This certainly is often true; but on careful analysis, it is found that in many species it is some definite, conspicuous bit of color which catches the eye and gives them away. It is the dark back, sharp breast line and white outer tail feathers that demonstrate the Junco in the sparrow-filled shrubbery. A year ago this summer I had my first meeting with the Bohemian Waxwing in the Canadian Rockies. Of course we all know the chestnut under tail-coverts of this species are a conspicuous mark with the bird in the hand, but I was surprised to find how conspicuous they were in the field. As the birds took flight they were very noticeable, and this mark which so definitely separated the species from the allied Cedar Waxwing common in the same region, is doubtless of use to the birds themselves as well as to the human observer.